

REMARKS

Claims 1-2 were examined and reported in the Office Action. Claims 1-2 are rejected. Claim 1 is amended. New claims 4-7 are added. Claims 1-2 and 4-7 remain.

Applicants request reconsideration of the application in view of the following remarks.

I. 35 USC § 112

It is asserted in the Office Action that claims 1 and 2 are rejected under 35 U.S.C. § 112, first paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Applicant has amended claim 1 to overcome the 35 U.S.C. § 112, first paragraph rejection.

Accordingly, withdrawal of the 35 U.S.C. § 112, first paragraph rejection for claims 1 and 2 is respectfully requested.

II. 35 U.S.C. §102(b)

It is asserted in the Office Action that claims 1-3 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,739,563 issued to Kawakubo et al ("Kawakubo"). Applicant respectfully traverses the aforementioned rejection for the following reasons.

According to MPEP §2131, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.' (Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). 'The identical invention must be shown in as complete detail as is contained in the ... claim.' (Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)). The elements must be arranged as required by the claim, but this is not an ipsissimis verbis test, i.e., identity of

terminology is not required. (In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990)).”

Applicant’s amended claim 1 contains the limitations of “[a] microwave tunable device for use in one of a phase array antenna system and a satellite communication system, comprising: a MgO substrate; a ferroelectric/dielectric ($\text{Ba}_{1-x}\text{Sr}_x$) TiO_3 (BST) thin film of a (111) direction which is formed on the MgO substrate, wherein x is a number and represents a composition ratio; and an electrode pattern formed on the ferroelectric/dielectric BST thin film.”

In other words, Applicant’s claimed invention relates to a microwave tunable device for use in one of a phase array antenna system and a satellite communication system.

Kawakubo discloses a ferroelectric type semiconductor device including an MgO layer as a substrate, Pt layer formed on the MgO layer and a BaSrTiO layer formed on the Pt layer. In Kawakubo, the Pt layer is used as a bottom electrode in the ferroelectric semiconductor device. Therefore, Kawakubo relates to a semiconductor memory device. Applicant’s claimed invention, however, is distinguishable from Kawakubo in usage and purpose. In Kawakubo, the semiconductor memory device has a plug, a lower electrode, an upper electrode, etc. In Applicant’s microwave tunable device, however, an electrode corresponding to the lower electrode of Kawakubo is not indispensable.

Further, Applicant’s claimed invention focuses on how to effectively fabricate a microwave tunable device. In particular, in Applicant’s claimed invention, the ferroelectric/dielectric BST thin film is formed by performing laser ablation, and an electrode pattern is formed on the ferroelectric/dielectric BST thin film by performing photolithography and etching processes. Additionally, Applicant’s claimed invention discloses that the ferroelectric/dielectric BST thin film is deposited in a (111) direction on the substrate under a predetermined temperature condition, i.e., about 825°C. Moreover, Kawakubo does not teach, disclose or suggest “[a] microwave tunable device for use in one of a phase array antenna system and a satellite communication system, comprising: a MgO substrate; a ferroelectric/dielectric ($\text{Ba}_{1-x}\text{Sr}_x$) TiO_3 (BST) thin film of a

(111) direction which is formed on the MgO substrate, wherein x is a number and represents a composition ratio; and an electrode pattern formed on the ferroelectric/dielectric BST thin film."

Therefore, since Kawakubo does not disclose, teach or suggest all of Applicant's amended claim 1 limitations, Applicant respectfully asserts that a *prima facie* rejection under 35 U.S.C. §102(b) has not been adequately set forth relative to Kawakubo. Thus, Applicant's amended claim 1 is not anticipated by Kawakubo. Additionally, the claim that directly depends from Applicant's amended claim 1, namely claim 2, is also not anticipated by Kawakubo for the same above reason.

Accordingly, withdrawal of the 35 U.S.C. §102(b) rejection for claims 1-2 is respectfully requested.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending, namely 1-2 and 4-7, patentably define the subject invention over the prior art of record and are in condition for allowance and such action is earnestly solicited at the earliest possible date.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly extension of time fees. If a telephone interview would expedite the prosecution of this Application, the Examiner is invited to contact the undersigned at (310) 207-3800.

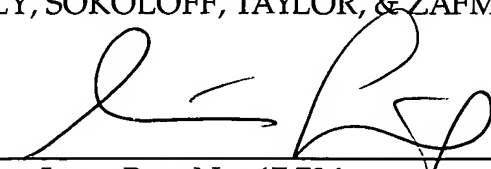
PETITION FOR EXTENSION OF TIME

Per 37 C.F.R. 1.136(a) and in connection with the Office Action mailed on September 20, 2004, Applicant respectfully petitions the Commissioner for a one (1) month extension of time, extending the period for response to January 20, 2005. The Commissioner is hereby authorized to charge payment to Deposit Account No. 02-2666 in the amount of \$60.00 to cover the petition filing fee for a 37 C.F.R. 1.17(a)(1) small entity. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR, & ZAFMAN LLP

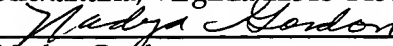
Dated: January 20, 2005

By: 
Steven Laut, Reg. No. 47,736

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail with sufficient postage in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, Virginia 22313-1450 on January 20, 2005.


Nadya Gordon